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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/926,092	12/27/2001	Yasutaka Ito	213163US2PCT	3826

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EXAMINER

PAIK, SANG YEOP

ART UNIT PAPER NUMBER

3742

DATE MAILED: 01/14/2004

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Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/926,092

Applicant(s)

ITO ET AL.

Examiner

Sang Y Paik

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 05 January 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-5, 8, 10 and 12-14 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-5, 8, 10 and 12-14 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.  
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

## Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_ 6) ☐ Other: \_\_\_\_\_

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## DETAILED ACTION

### *Claim Rejections - 35 USC § 103*

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-4, 8, 10 and 12-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ushikoshi et al (US 5,306,895) or Arena et al (US 5,635,093) in view of Hecht et al (US 5,877,475).

Ushikoshi et al shows a ceramic heater including the structure claimed including a sintered ceramic plate with a bottom hole where the bottom hole is formed relatively nearer to the heating surface than the heating element which is made of tungsten and a temperature sensor such as a thermocouple disposed in the bottom hole (see Fig 32). Arena et al also shows a heater including a ceramic substrate with a heating element embedded therein with a bottom hole formed relatively nearer to the heating surface than the heating element for providing a temperature sensor such as a thermocouple therein (see Fig 2). However, Ushikoshi et al nor Arena et al shows the temperature sensor pressed on the bottom portion of the hole.

Hecht et al shows a temperature sensor extending until it comes into a contact with the heating surface. Hecht further shows that a temperature sensor encased in a sleeve or rod being pressed to a heat sensing surface by an elastic body such as a spring.

In view of Hecht et al, it would have been obvious to one of ordinary skill in the art to adapt Ushikoshi et al or Arena et al with a temperature sensor pressed to make a contact with the

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heating surface to more effectively measure the heating temperature and further adapt with pressing means such as spring or any other suitable means to have the sleeve rod in which the temperature sensor is encased to make a closer contact with a heat sensing surface to further accurately make the contact with the heating surface to measure of the temperature thereof.

With respect to claim 4, Arena et al further shows the heating element being divided into a plurality of circuits.

With respect to claim 12, while the size of the connecting portion of the thermocouple is not explicitly shown, it would have been obvious that the size of the connecting portion be in any various sizes as long as the a solid contact can be made between the thermocouple to any connecting wire or strand to effectively transport the signals detected by the thermocouple to other electrical parts. With respect to claim 13, it would have been obvious to one of ordinary skill in the art to provide the bottom hole using a sandblast instrument or drilling since such would have conventional means to form a hole.

3. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ushikoshi et al or Arena et al in view of Hecht et al as applied to claims 1-4, 8, 10 and 12-14 above, and further in view of Yoshida et al (US 6,080,970).

Ushikoshi et al or Arena et al in view of Hecht et al discloses all the structure claimed except the heating element having a flat shape.

Yoshida et al shows a heating element having a flat shape. In view of Yoshida et al, it would have been obvious to one of ordinary skill in the art to adapt Ushikoshi et al or Arena et al, as modified by Hecht et al, with a heating element having a flat shape to further improve the heating distribution by the heating element.

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***Response to Arguments***

4. Applicant's arguments with respect to claims 1-5, 8, 10, 12-14 have been considered but are moot in view of the new ground(s) of rejection.

The applicant argues that Ushikoshi et al does not the claimed bottom hole. However, Ushikoshi et al clearly shows such bottom hole in Figures 32 and 34. The applicant argues that since the drawings are not evidence of actual proportions. MPEP 2125, however, Ushikoshi et al along with another applied reference Arena et al which also clearly shows the bottom hole that is provided nearer to the heating surface can provide the reasonable teaching that the hole would in fact provided nearer to the heating surface than the heating element.

With respect to Hecht et al, it is noted that this reference is applied to teach the temperature sensor that is making a close contact with an object being sensed and not the claimed bottom hole. The advantage of having a sensor in contact with the heating surface would enhance a more accurate measurement of the sensor than provided remote from it. In view of such teaching, there is clear motivation to combine the applied references. Thus, the applicant's arguments are not deemed persuasive.

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sang Y Paik whose telephone number is 703-308-1147. The examiner can normally be reached on M-F (8:00-5:30) First Friday Off.

The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0861.

S. R.

Sang Y Paik  
Primary Examiner  
Art Unit 3742

syp